

Remarks

This Amendment is responsive to the Examiner's Non-Final Office Action Summary mailed May 27, 2003. In the Office Action Summary, the Examiner rejects claims 1-3 and objects to claims 4-10 as being in improper multiple dependent form, since those multiple dependent claims depend from other multiple dependent claims. As a result, the Examiner notes that claims 4-10 have not been treated on their merits. In response, Applicant amends claims 1-3, and 5-8 and cancels claim 4. After entry of the foregoing amendments, claims 1-3, and 5-10 (1 independent claims; 9 total claims) remain pending in the application.

Applicant respectfully requests reconsideration of the application in light of the following remarks.

Claim Objection - Claims 4-10

The Examiner objects to claims 4-10 as being improper form because the claims are multiple dependent claims which further depend from other multiple dependent claims.

Applicant cancels claim 4 and amends claims 5-8. In particular, claims 5-8 are now dependent claims (not multiple dependent claims) which themselves, respectfully depend from only one claim. Claims 9 and 10 depend from claims 8 and 9, respectively. Claims 9 and 10 are not multiple dependent claims and therefore are not amended. Thus, the Examiner's objection of claims 4-10 is now rendered moot. Applicant respectfully request Examination of the claims 5-10, in view of Applicant's amendments and the below remarks.

35 U.S.C. § 102(b) Rejection - Claims 1-3

Claims 1-3 stand rejected under 35 U.S.C. §102(b) as being anticipated by Kovacs et al., U.S. Patent No. 5,981,268. Particularly, the Examiner asserts that, regarding claim 1, Kovacs discloses a plurality of micro-electrodes provided on a first region on a substrate, a reference electrode provided in a second region on the substrate, wherein the reference electrode includes at least one stimulus reference electrode for applying an electrical signal to the plurality of micro-electrodes. Regarding claim 2, the Examiner notes that Kovacs discloses a reference electrode for detecting an electrical signal from the plurality of micro-electrodes and the stimulus reference electrodes insulated from the measurement reference electrode. Further, the Examiner



posit that regarding claim 3, Kovacs discloses the second region placed at a distance from outer edge of first region.

Applicant cancels claim 4 and amends claim 1 to include the claim 4 limitations. Claim 1 now includes the limitation that "the biological specimen is placed in such a manner as to overlap with the first region and not to overlap with the second region." In this case, the first region contains the micro-electrodes and the second region may contain the stimulus reference electrode and possibly the measurement electrode.

Applicant notes that in order to anticipate a claim, each and every element as set forth in the claim must be found, either expressly or inherently described, in the single prior art reference. *Verdagaaal Bros. v. Union Oil Co. of California*, 814 F.2d 628 (Fed. Cir. 1987). "The identical detail must be shown in as complete detail as is contained in the...claim" *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226 (Fed. Cir. 1990). Further, the elements must be arranged as required by the claim, but identical terminology is not required. *In re Bond*, 910 F.2d 831 (Fed. Cir. 1990).

While Applicant's amended claim 1 claims, *inter alia*, that "the biological specimen is placed in such a manner as to overlap with the first region and not to overlap with the second region", Applicant can find no reference suggestion or teaching in Kovacs of the noted claim limitation. One advantage of this arrangement is that the electrode is not easily affected by external noise and artifacts due to the stimulus are reduced, as described in Applicant's specification at page 3, lines 26-32.

Kovacs, on the other hand, describes a sample consisting of cells in cell culture media, with the reference electrode also within the cell culture media (see e.g., Figure 4). In this case, the reference electrode "overlaps" with the biological specimen (e.g., the cells in cell culture media). As can be seen, the Kovacs arrangement is different from the reference electrode being included in a second region, and the biological specimen being placed to overlap with the first region but not the second region, as claimed by Applicant (see e.g., independent claim 1). That is, in accordance with the Applicant's invention, the reference electrode in the second region does not overlap with the biological specimen, since the reference electrode is in the second region and the biological specimen does not overlap the second region.

In addition, contrary to Kovacs, Applicant discloses a stimulus reference electrode and a measurement reference electrode, which are distinct one from the other. On the other hand,



Kovacs simply discloses a single reference electrode acting as a reference for both the stimulus and the measurement. To support the Examiner's contention that Kovacs discloses distinct stimulus and measurement electrodes, the Examiner directs the Applicant's attention to Kovacs column 12, lines 17-31 to demonstrate that Kovacs teaches stimulus reference electrodes insulated from the measurement reference electrode. Applicant, however, disagrees with the Examiner's characterization of Kovacs.

In particular, Applicant notes that the section of Kovacs indicated by the Examiner refers to photosensors disposed under an insulating layer, and not electrodes that are electrically insulated from each other. Thus, Applicant respectfully asserts that, contrary to the Examiner's suggestion, Kovacs does not disclose distinct stimulus and measurement electrodes. Indeed, Applicant can find no suggestion, motivation or teaching in Kovacs of more than one electrode or, of the reference electrode for the stimulus being different from the reference electrode for the measurement.

In addition, as Kovacs uses a single electrode for both the stimulus reference electrode and the measurement reference electrode, it cannot be said the Kovacs teaches or suggests two electrodes, namely a stimulus reference electrode and a measurement reference electrode, as claimed in Applicant's independent claim 1. Indeed, it is impossible for Kovacs to teach that the stimulus reference electrode and the measurement reference electrode are insulated from each other, as suggested by the Examiner, since Kovacs teaches only a single electrode for both the stimulus and measurement. As such, Kovacs does not disclose, suggest or teach each and every element as set forth in Applicant's claim 1, either expressly or inherently described. Consequently, Kovacs cannot arrange the elements of Applicant's claim 1 as required by the claim.

In view of the above, Applicant respectfully asserts that the Kovacs reference does not constitute a proper reference for sustaining a section 102 rejection, since Kovacs does not include each and every element of Applicants claims, in as complete detail and in the arrangement required by the claims. In particular, Kovacs does not teach or disclose, or even suggest, that the biological specimen is placed in such a manner as to overlap with the first region and not to overlap with the second region, or that the stimulus reference electrode is distinct from the measurement reference electrode as claimed in Applicant's claim 1.



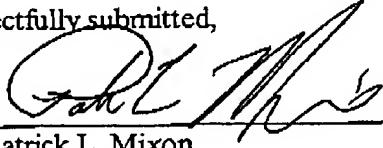
As such, Applicant respectfully asserts that independent claim 1 is allowable over Kovacs. Thus, Applicant respectfully requests that the Examiner's rejection of Applicant's claim 1, based on Kovacs, be withdrawn. Additionally, since claims 2-3, and 5-10 variously depend from independent claim 1, then those claims incorporate the limitations of independent claim 1 and are thus, also allowable. Consequently, Applicant respectfully requests that the Examiner also withdraw his section 102 rejection of dependent claims 2-3 and 5-10.

No new matter is introduced by the amendments noted herein. Each amendment is supported in the application as can be found in the specification, drawings, and claims as originally filed.

Entry of this Amendment is respectfully requested. After entry of this Amendment, the Applicant respectfully asserts that all of the claims pending (claims 1-3 and 5-10) in the application are now in condition for allowance. If there are any questions in connection with entry of this Amendment, the Examiner is invited to contact the undersigned attorney at the Examiner's convenience.

Respectfully submitted,

By


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